

Notice of Allowability

Application No.

10/621,931

Examiner

Tuan V. Thai

Applicant(s)

DIERKS ET AL.

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Examiner interview conducted 11/30/2005.
2. ☒ The allowed claim(s) is/are 1-4, 6, 8-13, 15, 17-22 renumbered as 1-5, 7, 6, 8-12, 14, 13, 15-18 respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7/17/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


TUAN V. THAI
PRIMARY EXAMINER

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Attorney's Docket No.: AUS920030471US1

IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE

In re application of: Dierks et al. Group: 2186
Serial No.: 10/621,931 Examiner: Tuan Thai
For: *METHOD AND APPARATUS FOR TRANSFERRING DATA FROM A
MEMORY SUBSYSTEM TO A NETWORK ADAPTER FOR IMPROVING THE
MEMORY SUBSYSTEM AND PCI BUS EFFICIENCY.*

1. This action is responsive to Examiner interview conducted on November 30, 2005. Claims 1, 6, 9-10, 15 and 18-22 are amended. Claims 5, 7, 14 and 16 are now canceled. Claims 1-4, 6, 8-13, 15 and 17-22 are now allowed.

EXAMINER'S AMENDMENT

2. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

3. Authorization for this Examiner's Amendment was given in a telephone interview with Mr. Mark E. McBurney; Reg. No. 33,114 on

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November 30, 2005.

4. The application has been amended as follows:

a. In the claims:

a1. Amending claims 1, 6, 9-10, 15 and 18-22 as following:

Claim 1 (amended) A method in a data processing system for transferring data from a memory to a network adapter, the method comprising:

receiving a request to transfer data to a network adapter;
and

setting an offset for a starting address of the data to align the data with an end of a frame in the memory, wherein the frame is transferred from the memory to the network adapter[.];

wherein the offset is zero if a frame size of the frame divided by a cache line size is zero.

Claim 6 (amended) A method in a data processing system for transferring data from a memory to a network adapter, the method comprising:

identifying an amount of the data;
if the frame size for a frame is divisible by a cache line size with a remainder, setting an offset for the data to align

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the data to an end of the frame;

and if the frame size for [if] the frame size divided by the cache line size without a remainder, setting the offset to zero[.];

wherein the offset is determined using the following:
offset=CLS-(frame size-ABS(frame size/CLS)*CLS wherein CLS is the
cache line size.

Claim 9 (amended) The method of claim [7] 6 further comprising:
transferring the frame to the network adapter after offsetting
the data using the offset.

Claim 10 (amended) A means in a data processing system for
transferring data from a memory to a network adapter, the data
processing system comprising:

receiving means for receiving a request to transfer data to
a network adapter; and

setting means for setting an offset for a starting address
of the data to align the data with an end of a frame in the
memory, wherein the frame is transferred from the memory to the
network adapter[.];

wherein the offset is zero if a frame size of the frame
divided by a cache line size is zero.

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Claim 15 (amended) A means in a data processing system for transferring data from a memory to a network adapter, the data processing system comprising:

identifying means for identifying an amount of the data;

first setting means for setting an offset for the data to align the data to an end of the frame if the frame size for a frame is divisible by a cache line size with a remainder; and

second setting means for setting the offset to zero if the frame size for if the frame size divided by the cache line size without a remainder[.];

wherein the offset is determined using the following:

offset=CLS-(frame size-ABS(frame size/CLS)*CLS wherein CLS is the cache line size.

Claim 18 (amended) The data processing system of claim [16] 15 further comprising: transferring means for transferring the frame to the network adapter after offsetting the data using the offset.

Claim 19 (amended) A computer program product in a computer readable medium for transferring data from a memory to a network adapter, the computer program product comprising:

first instructions for receiving a request to transfer data to a network adapter; and

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second instructions for setting an offset for a starting address of the data to align the data with an end of a frame in the memory, wherein the frame is transferred from the memory to the network adapter[.];

wherein the offset is zero if a frame size of the frame divided by a cache line size is zero.

Claim 20 (amended) A computer program product in a computer readable medium for transferring data from a memory to a network adapter, the computer program product comprising:

first instructions for identifying an amount of the data;

second instructions for setting an offset for the data to align the data to an end of the frame if the frame size for a frame is divisible by a cache line size with a remainder; and

third instructions for setting the offset to zero if the frame size for if the frame size divided by the cache line size without a remainder[.];

wherein the offset is determined using the following:
offset=CLS-(frame size-ABS(frame size/CLS)*CLS wherein CLS is the
cache line size.

Claim 21 (amended) A server data processing system for obtaining cultural context information from a client, the server data

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processing system comprising:

a bus system;

a network adapter connected to the bus system;

a memory connected to the bus system, wherein the memory includes a set of instructions; and

a processing unit connected to the bus system, wherein the processing unit executes a set of instructions to receive a request to transfer data to a network adapter; and set an offset for a starting address of the data to align the data with an end of a frame in the memory, wherein the frame is transferred from the memory to the network adapter[.];

wherein the offset is zero if a frame size of the frame divided by a cache line size is zero.

Claim 22 (amended) A server data processing system for obtaining cultural context information from a client, the server data processing system comprising:

a bus system;

a network adapter connected to the bus system;

a memory connected to the bus system, wherein the memory includes a set of instructions; and

a processing unit connected to the bus system, wherein the processing unit executes a set of instructions to identify an amount of the data; set an offset for the data to align the data

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to the end of the frame if the frame size for a frame is divisible by a cache line size with a remainder; and to set the offset to zero if the frame size is divided by the cache line size without a remainder[.];

wherein the offset is determined using the following:

offset=CLS-(frame size-ABS(frame size/CLS)*CLS wherein CLS is the cache line size.

REASONS FOR ALLOWANCE

5. The following is an Examiner's Statement of Reasons for Allowance:

The prior art of record does not teach or suggest, alone or in combination, **all** the limitations of the amended claim of the current invention (claim 1). The closest prior art of record, Wooten reference 5,911,152 discloses the system and method for storing data in a buffer which crosses page boundaries utilizing beginning and ending buffer pointers. Wooten however does all the combined limitations of the claims invention; particularly the concept of transferring data from a memory subsystem to a network adapter wherein setting an offset for a starting address of the data to align the data with an end of a frame in the memory, the frame is transferred from the memory to the network adapter and the offset is zero if a frame size of the frame divided by a cache line size is zero (claims 1, 10, 19 and 21)

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nor does the prior art references disclose identifying an amount of the data; if the frame size for a frame is divisible by a cache line size with a remainder, setting an offset for the data to align the data to an end of the frame; and if the frame size for [if] the frame size divided by the cache line size without a remainder, setting the offset to zero, the offset is determined using the following: $\text{offset} = \text{CLS} - (\text{frame size} - \text{ABS}(\text{frame size} / \text{CLS}) * \text{CLS})$ wherein CLS is the cache line size (claims 6, 15, 20 and 22). In light of the foregoing, claims 1, 6, 10, 15 and 19-22 of the present application is found to be patentable over the prior arts. Claims 2-4, 8-9, 11-13 and 17-18 further limit the allowable independent claims. These claims are therefore allowable for the same reason as set forth above.

Any comments considered necessary by Applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is (571)-272-4187. The examiner can normally be reached on from 6:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are

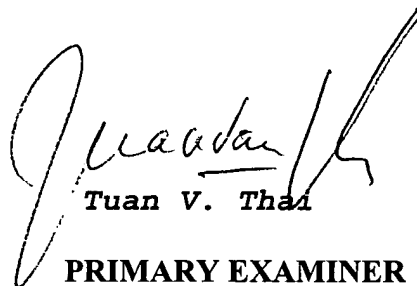
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unsuccessful, the examiner's supervisor, Mathew M. Kim can be reached on (571)-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVT/December 02, 2005



Tuan V. Thai
PRIMARY EXAMINER

Group 2100